1971 Wildlife Survey
Prudhoe Bay Area of Alaska

AtlanticRichfieldCompany

For three years Angus Gavin, one of North America's foremost naturalists, has studied the wildlife of the Prudhoe Bay area of Alaska's North Slope. In 1971 he expanded his observations to cover the islands just offshore from that portion of the North Slope stretching between the Colville and Canning Rivers. This report summarizes the 1971 survey.

A native of Ellon, Scotland, Gavin won science honors in zoology at Gordons College, Aberdeen. He moved to Canada soon after receiving an engineering degree from Kanes College. In his more than 40 years of work in the Far North, he has made frequent trips by dog team over Canada's frozen Arctic, learning many of nature's secrets. Among his accomplishments were the discovery of the nesting grounds of the Ross and Tule geese in the Perry River district of the Northwest Territories. Having spent much time with Canadian Eskimos, he developed the first workable Eskimo dictionary, which is still in use today.

In 1945 Gavin joined Ducks Unlimited (Canada). He spent two years assessing waterfowl conditions in the Athabasca Delta in northern Alberta, became provincial manager in Saskatchewan and, in 1968, was named senior vice president of the conservation organization.

In 1969, soon after oil was discovered at Prudhoe Bay on the North Slope of Alaska, Gavin was asked by Atlantic Richfield Company to study the ecology of the North Slope and to recommend practices to ensure maximum protection of wildlife and environment of the area.

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I—Offshore Islands

Ever since oil was discovered in 1968 at Prudhoe Bay on Alaska's North Slope there has been speculation that more oil might lie offshore in the Beaufort Sea. While no offshore drilling has as yet taken place, there has been considerable seismic activity. To determine baseline data for future use, an inventory of wildlife covering the offshore area from the Colville River to the Canning River was begun in the spring of 1971.

Lying offshore between these two rivers is a series of islands forming a protective barrier against coastal erosion from high wave action and ice movements. The islands range in size from about eight miles long and a mile wide down to small sand bars and gravel reefs. While a number are fairly close inshore, the vast majority lie from five to ten miles out to sea and form a sort of semi-circle between the two rivers. With the exception of the Jones Island group off the mouth of the Colville River and Flaxman Island at the mouth of the Canning River, all are practically devoid of vegetation and are composed mostly of pushed up silt and gravel caused by ice action. Driftwood and debris, which are common on most of these islands, indicate a westward current movement from the McKenzie River system.

Much of the area between the islands and the shore is quite shallow, varying from a few inches in depth up to 20 feet in some places. Tides under normal conditions are extremely low, ranging up to six inches. Wind tides can, of course, be somewhat higher depending on direction and velocity. A large part of this lagoon-like area freezes to the bottom during the winter but opens up much earlier in spring than does the surrounding area. Many rivers flow into this part of the Beaufort Sea—the main ones being the Colville, Kuparuk, Sagavanirktok, and the Canning. Spring floes from these rivers and the many other smaller ones rapidly erode the sea ice, leaving large stretches of open water much earlier in the spring than we find to either the east or west. Normally, the ice in these rivers breaks up toward the end of May, and by the first week of June large stretches of open water spread out from the river mouths. Temperatures can vary considerably at this time of the year, ranging from daytime highs of 55°F down to 25°F during the night.

Of primary interest in 1971 was an inventory of the wildlife on the offshore islands. Some bottom samples were taken of the area lying between the islands and the shore to ascertain the volume and type of food available for the high fish populations that frequent this area.

Wildlife

Using a helicopter on floats from our base at Prudhoe Bay, our first visit to the offshore islands in 1971 was on June 4, when we cruised the entire outer group from Cross Island along to the mouth of the Colville River. At this time all the islands were fairly well icebound, and the only wildlife seen were two white foxes on Bodfish Island and a group of seven caribou—two with calves—on Pingok Island. Around the mouth of the Colville River we saw numerous flocks of geese, including whitefronted *(anser albifrons),* black brant *(branta nigricans)* and lesser Canadas *(branta canadensis taverneri).* Seven pairs of whistling swans *(olor columbianus)* were also recorded on the delta at this time.

On June 8 we surveyed the outer group of islands east to Canning River. One white fox was seen on Duchess Island and five caribou on Flaxman Island. Glaucous gulls *(larus hyperboreus barrovianus)* were seen on most of the islands—also a few pairs of sabines gulls *(xema sabini).* We saw no nests on the outer islands as yet, although both geese and gulls had been nesting on some of the islands closer inshore for over a week.

On June 11 we flew the outer island chain. Only one nest was seen—that of a glaucous gull on Cross Island. Good numbers of common eider *(somateria mollissima)* were seen in open water around most of the islands, as were a few pairs of oldsquaw *(clangula nyemalis)* and a scattering of sabines gulls.

On June 16 we again visited the outer chain of islands. Common eider were plentiful, but only one nest was seen—that on Cross Island. One pair of whistling swans was seen on Flaxman Island but no nest was located.

June 23 was spent on the outer islands checking nesting populations. Most birds in the area of the islands were now nesting, but the overall population was not as high as expected. The largest population was on Cross Island, where seventy-three common eider, three glaucous gull and one sabines gull nest were recorded. Many of the small gravel and silt islands east of Cross Island had few nests. A total of 20 common eider nests was counted on seven islands between Cross Island and Flaxman Island.

Flaxman Island itself produced thirteen nests—six common eider, five oldsquaw, one whistling swan, and one white winged scoter *(malanitta deglandi).* The chain of islands west from Cross Island to Colville River was a little more productive but really not as high as one would expect from this type of habitat. The Return Islands showed 24 common eider and 16 glaucous gull nests.

The Jones Island group had a total of thirty-seven nests made up of fourteen oldsquaw, twelve common eider, nine glaucous gull and two pintail *(anas acuta).*

From the outer island group, a total of 187 nests was recorded, made up as follows:

Common eider	135
Oldsquaws	19
Glaucous gull	28
Sabines gull	1
Pintail	2
Whistling swan	1
W-W Scoter	1
Total Outer Islands	187

Although most of the islands were searched fairly systematically, there is no doubt that some nests were missed, especially on islands such as Flaxman and Pingok which are tundra-covered and larger than most of the others. No effort was made to search out and record small shore birds or other small bird nests although several were found while searching for waterfowl nests.

During the month of July no visits were made to the outer islands so that nesting birds would not be disturbed.

On August 5 the outer islands east from Cross Island to Flaxman Island were thoroughly covered for broods and moulting adults. Thousands of birds, mostly moulting eiders and oldsquaws with some white-winged scoters, were seen in the vicinity of the islands. It is difficult to estimate the number of young birds, but it appears that where there were nesting birds the hatch was successful. Islands west from Cross Island to Colville River, although not having the same density of birds around them, nevertheless had a fairly high population of moulting eiders, oldsquaw and scoters. Young glaucous gulls were still around their nest sites, and a number of eider and oldsquaw broods were in evidence.

Apart from the birdlife, a few foxes and some caribou, there is little other animal life in this area. Seals can be seen at times, and while not plentiful close inshore they do, on occasion, venture into the rivers where they have more than once robbed fish from our sampling nets several miles up stream. Polar bear could conceivably be in the area but only as very rare stragglers.

Along the coast and much closer inshore there are some highly populated islands that stretch from Prudhoe Bay east to Bullen Point. A number of these islands lie just off the mouth of the Sagavanirktok River and are favorite nesting sites for black brant and glaucous gulls. Two small gravel islands just west of Foggy Island had a nesting population of some fifty pairs of black brant geese, six lesser Canada geese and some forty glaucous gulls. Some of the goose and gull nests were so close together that any disturbance which moved geese from their nests meant immediate egg predation by the gulls. Hatching success from these islands, however, was quite good, as indicated from our brood counts.

Howe Island, which lies just off the mouth of the Sagavanirktok River, is about a half-mile long and a quarter-mile wide; it rises about 50 feet above the water at the east and is completely tundra covered. This was the nesting site chosen by some 50 pairs of snow geese *(chen hyperborea)* in 1971. Up to this time only a few widely scattered pairs nested along the coast, and we hope that the Howe Island nesting may be the start of a new colony. How many nests of this new colony were successful is not known, but on August 15 a total of 120 adults and young was counted on the Sagavanirktok River Delta. In this group were an estimated 80 young and 40 adults.

Fish

The lagoon-like area lying between the outer islands and the shore appears to be a vital one as far as fish are concerned. A large population of Arctic char, grayling and whitefish frequent this area during much of the open-water period. Nets set along any point on the shore or islands will generally catch good quantities of fish. Grayling are very plentiful in the bays during the early part of spring where they seem to congregate after spawning. Runs of Arctic char from this lagoon area are relatively continuous up the rivers during much of the summer and fall. Samples of char stomach contents taken by the

Department of Game and Fish showed a variety of foods being eaten, including isopods, gastropods, chironomid larvae and freshwater shrimp. Sample dredging near the outer islands was not very productive. Some isopods and gastropods were picked up, but nowhere were they to be found in quantity. Possibly, our attempts at dredging were conducted too far from shore and should have been confined to the shallow bays and river mouths.

Summary

From our 1971 surveys it is evident that while the overall bird-nesting populations on the outer islands are not extremely high, these islands do have other functions. They are very important as a protective barrier against shore erosion and ice movements. They also serve as habitat and protection for many thousands of moulting eiders, oldsquaws, and scoters. The lagoon-like basins inside these islands are highly essential as a staging and feeding area for the high fish population. Although our dredging did not show it, large quantities of food within this area are indicated by samples taken from fish stomachs.

II—Onshore Survey

Although part of our time during the spring and summer of 1971 was spent gathering data on the offshore islands and the area between these islands and the main shore, we continued our studies of caribou, waterfowl and other wildlife in the area between the Colville River and the Canning River.

Early spring weather was quite cold, accompanied by frequent falling and blowing snow. Temperatures in April ranged from a minimum of −30°F to a maximum of −20°F. May weather was little better, but temperatures were considerably higher, ranging from −20°F at the beginning of the month up to +47°F on May 30. Breakup of the local river, the Sagavanirktok, occurred on May 24—about normal for this part of the North Slope. Snow cover was heavier than we have seen it during the last few years over the whole area, including the Brooks Range.

Caribou

Early spring surveys were conducted from a twin-engine Otter. From the first of June through the summer and fall a helicopter was used.

Our first caribou survey of 1971 was carried out on May 9, when the area east of Sagwon to Canning River and north to the coast was flown. Much of the area was still heavily snow-covered with little sign of thawing. The only caribou seen were three small bands totaling 50 on the coast near Mikkelsen Bay. These animals had more than likely wintered on the Slope since there were no signs of other coming up from the south or migration.

The area southwest to Anaktuvuk Pass was surveyed on May 12. Snow cover was heavy, and very little bare ground was showing north of the range. A few scattered, small bunches of caribou (a total of 27 animals) were seen north of the foothills, but there was no evidence of any migration as yet. From May 12 through May 22 coverage was limited to local surveys. Fourteen caribou were counted near the Kuparuk River on May 16, and it is very likely that these animals had also wintered in the area.

The first sign of any migration from the south was on May 22 when some 83 caribou were counted in the area between the Sagavanirktok River and Kavik. Snow cover was still heavy with little sign of thawing even on high ground, although water was beginning to run on top of the ice on the Sagavanirktok River. Temperatures were ranging from a low of +24°F to a high of +36°F.

The area east between the Sagavanirktok River and the Canning River was again surveyed on May 28, and at this time 463 caribou were counted. The majority of these animals were in the foothills area just north of the range. Among this group were several cows with newborn calves. Snow cover throughout the area was still quite heavy, although bare patches were now beginning to appear on higher ground.

From the beginning of June through the end of the month coverage of the area was kept fairly constant. At times we flew the area primarily to check on the caribou populations and at others we were concentrating on waterfowl. During the first part of June there was a fairly steady buildup of caribou along the southern portion of the range. The largest count was made on June 14 in the area just north of the range between Sagwon and the Canning River. We saw several thousand animals, the majority being cows with calves. Our estimate was 4,000, but the total could have been larger since it is difficult to cover such a large area without missing portions of it.

Coastal areas west to the Colville River were surveyed on the morning of June 18; and although some good-sized bunches of cows and calves were recorded, the majority were still scattered over a wide area in small groups and singles. The estimated total was 800 animals.

The eastern portion of the range was surveyed the afternoon of June 18. Good-sized herds of caribou were seen—some composed mostly of cows with calves, others mainly bulls. A large percentage of animals was well south of the coast, and it appears that most of the calving this spring had taken place in the foothills, most likely because heavy snows in the mountains delayed migration.

Although our coverage of the area was not as intensive as in 1969 and 1970 because of time spent on the offshore islands, it appears that the overall caribou population on this part of the Slope was down from the previous two years and that fewer animals reached the coast during the calving period. A fairly intensive survey of the area on June 27 and June 28 gave us an estimated total population of some 15,000 animals. The major part of these were in the southeast portion of the range, running from the Sagavanirktok River at Franklin Bluffs east to the Canning River. The largest percentage of animals on the western portion of the range were from Oliktok Point south between the Ugnuravik River and the Colville River.

Fall surveys were limited to four flights over the area during August and early September. On August 10 we surveyed east of our base at Prudhoe, and covered much of the range between the Sagavanirktok River and the Canning River. On this flight some fairly large herds were seen moving south toward the range. Although some of the herds now had a mixture of cows, calves, yearlings and bulls, there were still some that were practically all cows and calves and others composed mostly of bulls. The largest of the herds, recorded northeast of Kavik, had an estimated 3,000 head. Another herd with an estimated 1,000 animals was just south of Pingo on the Shaviovik River. Although both herds were mixed, the largest percentage of animals was made up of cows and calves.

On August 15 we flew west of the base, covering the area to Ugnuravik River then south to the foothills and then over to Dietrich and Atigun. In the area between Nora and Dietrich an estimated 6,000 caribou were moving south toward the pass. These were scattered along a fairly narrow area, many of them in the valley of the Kuparuk River headwaters. (Later reports from helicopter pilots flying out of Happy Valley estimated this migration to contain upwards of 10,000 animals.) These were the herds seen on the eastern part of the range during our survey on August 10. They had moved across the Sagavanirktok River south of Franklin Bluffs, then down Nora into the valley of the Kuparuk River headwaters.

Although two fall flights were made over the western part of the range, no large movements were seen on either of them. There were scattered bunches of animals varying up to an estimated 350, but no significant movement was noted. All told, there were an estimated 3,000 to 4,000 caribou in the area, with the largest numbers being between the Ugnuravik and Colville Rivers.

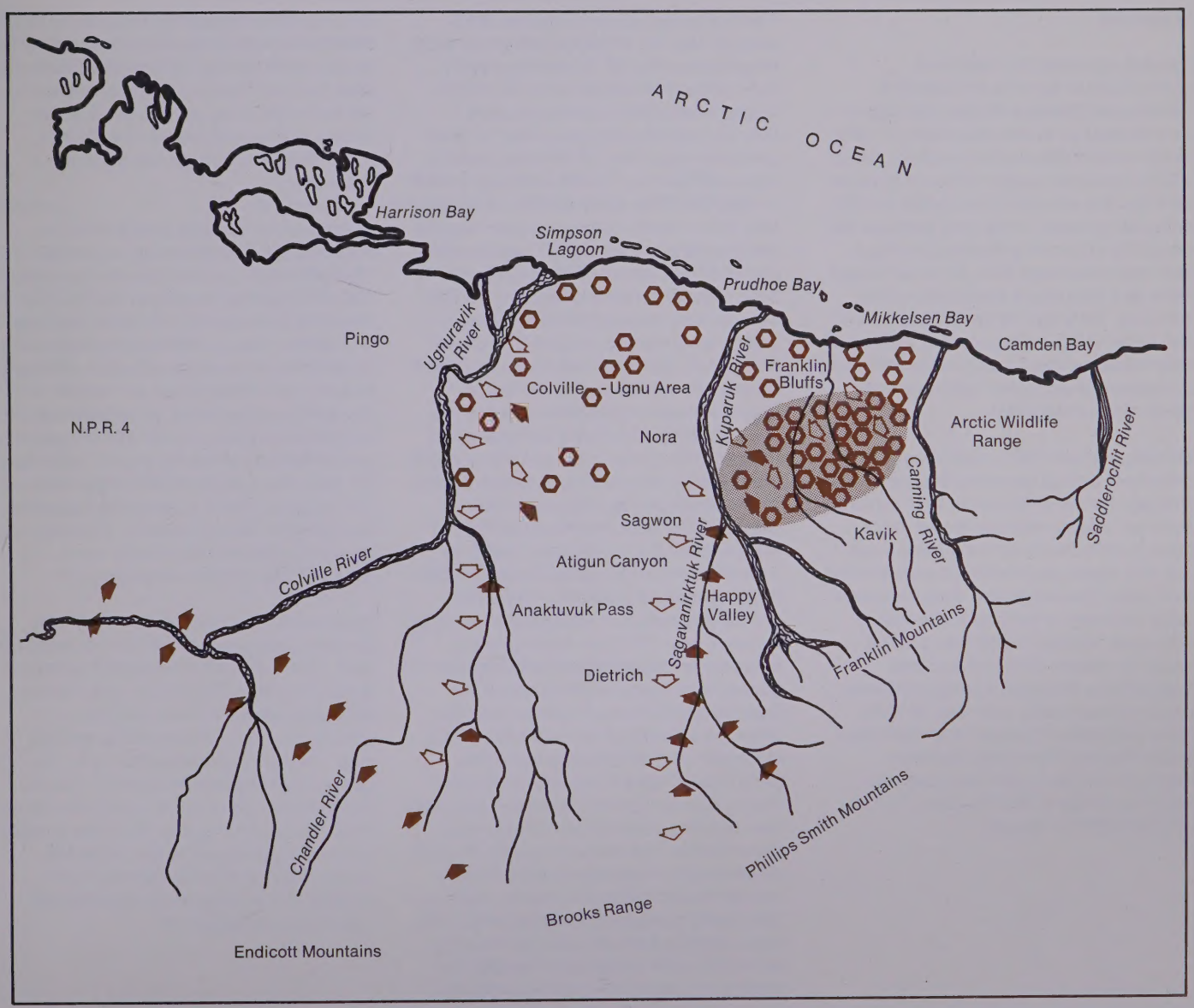
Movements of caribou during this past season were considerably different from those we have seen in previous years. Normally, the spring migration from south of the Brooks Range onto the Slope takes place in early May with the majority of cows being on the coastal area by calving time, which runs from about May 25 through the first week of June. Other than a scattering of animals, which we believe had wintered on the Slope, there was no movement to the coastal areas during the spring of 1971. It was the week of May 22-28 before any sign of a movement north was noted and then only in small numbers.

Heavy snow cover in the mountains is believed to be the cause of this delayed migration. With migration being late, cows were forced to drop their calves much farther south than usual, and although there was a movement north after calving, no really significant numbers reached the coast. The majority of animals on the eastern portion of the range came as far north as the line from Franklin Bluffs east to the Canning River. Here they spent the short summer, then turned around and started their migration south. The migration into the western portion of the range, like that in the east, was very much delayed—and then only small numbers came north to the coast compared to previous years. With little or no migration into the coastal zones in 1971, there was very little movement of animals through the base area this past summer and fall. Some small groups were in the area much of the time, and these moved back and forth around the base depending on weather and how much they were bothered by flies.

Estimated composition of herds is shown in the following table.

1971 Caribou Counts

Date	Location	Total	Cows	Calves	Bulls	Yearlings
May 9	Mikkelsen Bay	50	30	—	6	14
May 12	Western Foothills	27	13	—	5	9
May 16	Kuparuk River	14	8	—	2	4
May 22	Kavik Area	83	66	—	—	17
May 28	Eastern Foothills	463	380	10	—	73
June 14	Kavik Area	4000	2300	1400	—	300
June 18	Colville Ugnu Area	800	340	280	10	170
June 18	Eastern Range	3000	1400	830	450	320
June 27	Eastern Range	6000	2300	2100	700	900
June 28	Eastern Range	5000	1900	1700	600	800
Aug. 10	Eastern Range	5500	2500	2000	500	500
Aug. 15	Dietrich Atigun	6000	2300	2000	900	800
Aug. 15	Colville Ugnu Area	4000	1900	1100	600	400



Caribou Migration Patterns

- Caribou migrations North
- Caribou migrations South
- Major calving Area 1971
- Summer range

Waterfowl

Surveys covering the waterfowl populations in the area between the Colville and Canning Rivers, although not as extensive as those undertaken in 1970, were nonetheless large enough to give us a fairly accurate count of birds in the area and also the success of the hatch. In 1970 complete surveys of the area between the Colville and Canning Rivers covering a strip ten miles deep from the coast inland gave us a total count of all birds within this area. Time did not permit this type of survey in 1971, so the accepted method of mile transects was used. The surveys were compared for accuracy against a total count of selected areas.

Overall, the total 1971 population of waterfowl was up considerably over 1970. Average for the total area in 1971 was 3.25 pairs per square mile compared to 2.8 pairs in 1970. Much of this increase was due to a higher population of whitefronted and lesser Canada geese. Some changes were recorded in the populations of oldsquaw, eiders and pintails, but the major increases were in the goose populations. Although spring conditions occurred somewhat later than in 1970, there was little difference in arrival dates and in the start of nesting. Summer weather was good, with temperatures reaching a high of 58°F in June, 75°F in July and 68°F in August.

The first geese, lesser Canadas, were seen on May 14. Whitefronted geese were recorded on May 16. Some other birds seen in the area earlier were the rough-legged hawk, May 9; glaucous gulls, May 12; lapland longspurs, May 12; and snow buntings, May 13. The first pintails were seen on May 19 and whistling swans on May 20. Shore birds started arriving on May 23 and were in abundance by May 26. Nesting geese, both lesser Canadas and whitefronted, recorded on May 26, had been present for several days since they had four and three eggs respectively. Swans were nesting by June 2, and the first pintail duck nest was found on June 3. Counts of waterfowl were started on June 3 and were completed by June 12. They involved strip-flying 300 one-mile transects along the coast and 100 one-mile transects on selected areas further inland. Three check points, one each in the Colville River area, the Kuparuk River area, and the Sagavanirktok River area were used as reference points to compare the strip-method transects. While the overall population of waterfowl showed an increase over 1970, the major point of interest was the nesting colony of snow geese on an island at the mouth of the Sagavanirktok River. Previous records show the odd pair of snow geese nesting along this part of the coast and some fairly heavy flights flying east each year during spring migration, but no colony had ever become established in this area in recent years. The nesting of some 50 pairs at the mouth of the Sagavanirktok River may be the start of a new colony, which in time could spread to other sites within the area. Judging from the number of young birds seen with one group of adults, this nesting appeared to be quite successful.

On August 5 a survey of the Sagavanirktok River delta area showed a group of 40 adults and 80 young. Although this was less than half the number of pairs that nested in the area, we assume that the others were somewhere in the vicinity, even though we did not find them at the time.

Overall brood surveys were started on August 5 and completed by August 10. These surveys covered the same areas as that of the earlier waterfowl counts. Hatching success was excellent and was well above that of 1970. Geese, in particular, had an exceptionally fine nesting season with whitefronted and lesser Canada geese showing up very well. A comparison of pair counts with brood counts indicates that the overall hatching success was a phenomenal 70 percent. The average size of whitefronted goose broods was 3.7 and for lesser Canada geese 3.3. Black brant broods were considerably smaller, averaging 2.2.

Ducks also were quite successful, with pintails, oldsquaws and eiders showing up best. Greater scaup, which were entirely unsuccessful in 1970, had a better season although we only recorded a total of 27 broods from an estimated 129 breeding pairs. Overall, including both ducks and geese, brood sizes averaged 3.1. This is considerably better than average for most Arctic areas. Even with a fairly low density of breeding pairs per square mile, the Arctic Slope of Alaska may be of vital importance to many of the species that use it as a breeding area.

The following table compares our estimates of the 1970-1971 total waterfowl populations in the 4000-square mile survey area:

Species	1970 Total Waterfowl	1970 Percentage	1971 Total Waterfowl	1971 Percentage
Old Squaw	7740	34.6	8623	33.0
Eiders	6074	27.2	6891	26.3
Pintails	3466	15.5	3784	14.4
Whitefronted Geese	2622	11.8	3856	14.7
Lesser Canada Geese	843	3.8	1306	5.0
Black Brant Geese	872	3.9	891	3.4
Snow Geese	—	—	100	0.4
Greater Scaup	224	1.0	258	1.0
Widgeon	185	0.8	159	0.6
Mallard	24	0.1	6	Trace
Green Winged Teal	9	Trace	2	Trace
Shoveller	—	—	8	Trace
Scoters	293	1.3	308	1.2
	22,352	100%	26,192	100%

1970

Average—2.8 pairs per square mile

1971

Average—3.25 pairs per square mile

Wolves

More wolves were observed in the area during 1971 than in previous years, but the population of these animals on the Slope is still very low. Only two packs were seen, one with six animals and the other with four, but a number of singles was recorded. One single in particular was of interest because it had no tail. This animal was spotted on June 8 on the Canning River just west of the Sadlerochit Mountains. On May 9, the pack of six wolves was seen at Mikkelsen Bay and the pack of four near the Canning River about 20 miles from the coast. No wolf kills were recorded during our caribou surveys, although there likely were several in the area. Generally, the kills are easily found because scavenging ravens can be seen from the air quite readily.

Grizzly Bear

We have made no full-scale survey of grizzly bears on the Slope, but casual observations suggest that there is little change in their population from earlier years. We have seen bears on most of our caribou and waterfowl surveys, the majority along river beds which they tend to use on their north and south movements. Several animals were recorded in close proximity to the base camps, where they seem to be attracted by the smell of food. Activities around the camps and the movement of aircraft in and out of the area seem to have little or no effect on their normal way of life.

One of the heaviest populated areas on the North Slope is the Sagavanirktok and Ivishak Rivers. Bears can be seen along these rivers at any time from May through September. Several dens are located on the headwaters of the Ivishak, and the bears move from them in spring down toward the coast following the river courses.

Lemming

The population of lemmings in our study area during 1971 was quite low. Very few signs of these small rodents could be found on the range west of the Sagavanirktok River. The area to the east was somewhat more populated, but nowhere were they to be found in large numbers.

Snowy owls and short-eared owls were fairly abundant east of our base during early spring and many of them stayed around all summer, which would indicate a sufficient supply of lemmings were available for their needs. Jaegers, which also feed on lemmings when available, were fairly plentiful on the eastern range, providing further evidence of a fair lemming population. Ground checks at several locations bore this out, although nowhere was there any indication that an upward cycle was in progress.

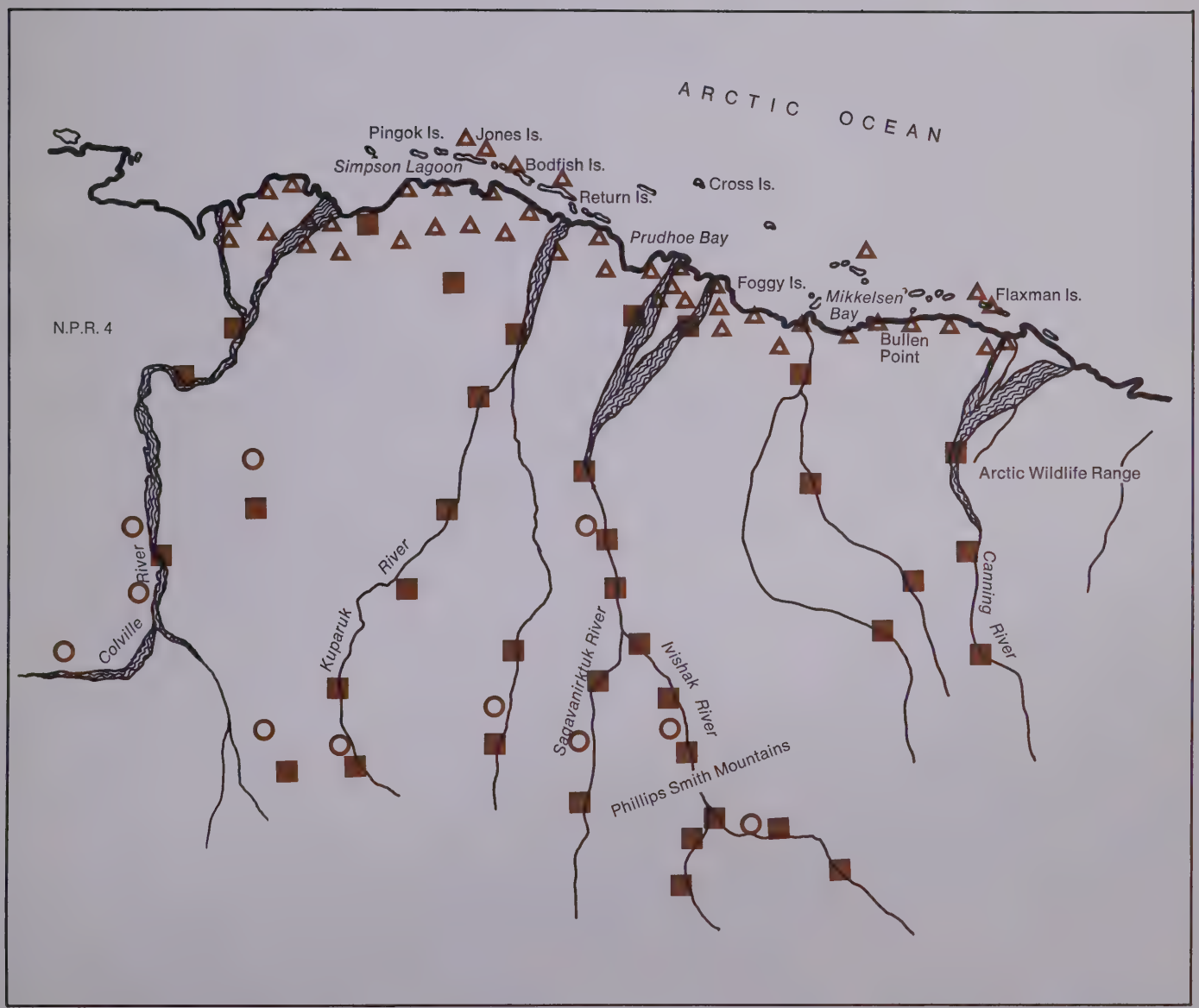
Foxes

Some foxes were in the area during 1971 and fair numbers could be seen around the base camps, but the overall population was quite low.

The population of lemmings holds the key to the number of foxes within an area. When the lemming population is low, so also is the fox population. Lemmings are the main food source of foxes, and until they hit the upward cycle foxes will be scarce.

Moose

Although there is only a scattered population of moose in the immediate vicinity of present oil activities, there are some high populations along the river valleys leading toward the foothills of the Brooks Range. During 1969 and 1970, we made several counts in selected areas so as to have a check for future reference. Two of these areas were selected for counts in 1971, and both populations had dropped about 15 percent. Deep snow, we believe, was the cause of this drop. Much of the survey area was so heavily covered with snow that few willows and other shrubs were to be seen, and most of the moose in the region were yarded together in small areas. Several carcasses were seen on our surveys, and closer inspection indicated that they had died of starvation.



Barren Ground Grizzly, Waterfowl and Other Animals

- Barren ground grizzly bear 1971
- Major waterfowl populations
- Moose

Fish

During 1970 we did some test-netting on the Sagavanirktok and Kuparuk Rivers from which it was evident that substantial numbers of both Arctic char and grayling were using many of the rivers on the North Slope. To get a better classification on numbers, age and sexual maturity of fish using these rivers, the Department of Fish and Game spent considerable time during the summer of 1971 conducting tests and tagging fish in the rivers and along the shore. Results of these tests are expected to be available in a future report from the Department of Fish and Game.

From our own observations, there appeared to be some excellent runs of char in the rivers during 1971. Heavy schools of fish could be seen from the air, especially during late July and through August. Some of the tributaries of the Sagavanirktok River, such as the Ivishak, Lupine and Ribdon, are excellent spawning streams and carry heavy populations of fish in the fall. Although most of the North Slope rivers are shallow and fast running, there are sufficient deep areas to accommodate wintering fish.

Types of Fish Using Rivers

- Arctic Char fish
- Whitefish
- Grayling fish
- Potential spawning rivers

Annotated List of Birds

Observations in 1971 added a number of new sightings to our list of birds for the Alaskan Slope. Some changes were also noted in some of those listed in our 1970 report. To bring our surveys up to date, a complete list of all birds recorded since our observations began are listed below.

Olor columbianus (whistling swan)

Distribution: Widely scattered over much of the area. Generally frequenting the larger lakes. Thirty-seven pairs recorded within the study area in 1970, thirty-four in 1971.

Migration: Among the first to arrive in the spring (around May 20) and starts nesting on arrival. Generally among the last to leave area in fall. Often young birds are barely able to fly when freeze-up occurs.

Branta canadensis taverneri (lesser Canada goose)

Distribution: General over much of the area, although breeding population not exceptionally high. Many nonbreeders summer in the area. Nests from the coast all the way to the foothills.

Migration: Generally the first geese to arrive in our observation area in the spring (1970-May 10; 1971-May 14). They are also among the first to leave in the fall.

Anser albifrons (whitefronted goose)

Distribution: Widely scattered from the foothills to the coastal plains. Largest population of any of the geese using this area. Large flocks frequent the Ugnu and Colville areas during moulting period.

Migration: Arrives in Prudhoe Bay area early, often in company with lesser Canada geese. Arrival dates: 1970-May 12; 1971-May 14. Starts nesting on arrival even though snow still on ground. Stays quite late in the fall and can be seen in large flocks grazing on river bottom flats and out on tundra.

Branta nigricans (black brant)

Distribution: Widely scattered along the coast. Deltas and wide flats are their favorite nesting areas. Moulting flocks along with their young can be found on river deltas during the latter part of July.

Migration: Later arrivals than either the lesser Canada or whitefronted geese (1970-May 26; 1971-May 28). Although numbers of these birds nest on this part of the Slope, a migration of considerable magnitude passes through along the coast during spring, heading east. Fall migrations are fairly early, and while some birds stop off to feed on some of the deltas, most pass right through.

Chen hyperborea (snow goose)

Distribution: Until 1971 no colonies of snow geese have been recorded from this area in recent years. Most passed through in fairly large numbers moving east. In 1971 a colony of some 50 pairs nested on an island at the mouth of the Sagavanirktok River. Hatch was successful. First arrivals: May 29.

Migration: Seen only in migration in the fall. Few stop over to feed.

Gavia arctica (Arctic loon)

Distribution: Abundant nester in the Prudhoe Bay area. Carex and grass-edged ponds and sloughs are their favorite nesting areas.

Migration: Arrives in the area in late May and early June. Migrates late in the fall, often being caught with their young unable to fly at freeze-up.

Gavia stellata (red-throated loon)

Distribution: Fairly abundant nester throughout the area. Prefers same type of habitat as the Arctic loon.

Migration: Arrives in late May and early June. Migrates late in the fall. Like the Arctic loon, they are sometimes caught in the fall with their young unable to fly at freeze-up.

Gavia adamsii (yellow-billed loon)

Distribution: Fairly scarce bird in the area. Few pairs recorded each year we have been here. Most in the Ugnu, Colville River area. One pair recorded on the Sagavanirktok River delta in 1971.

Migration: Arrives late May and early June. Fall movements unknown.

Anas acuta (pintail)

Distribution: Fairly abundant nester over much of the Slope. The most prominent of the game duck species in the area.

Migration: One of the first to arrive in the spring (1970-May 11; 1971-May 19) and among the first to leave in the fall.

Anas platyrhynchos (mallard)

Distribution: A scarce bird in the area and very widely scattered. One brood recorded in 1970 and one in 1971.

Migration: Arrives toward end of May (1970-May 27; 1971-May 28). Leaves just before freeze-up in fall.

Anas carolinensis (green-winged teal)

Distribution: Only a few pairs recorded for each year under observation. (Nine birds in 1970 and two in 1971).

Migration: Leaves early in the fall.

Spatula clypeata (shoveller)

Distribution: A scarce bird in the area, none seen in 1969 and 1970 but several pairs recorded in 1971. One brood seen on August 7 just north of the base.

Migration: First birds seen on May 31, 1971 when two pairs were spotted on a small pond near the Kuparuk River. Several other pairs recorded after that date. Fall migration not known, but presumed to move out fairly early in the fall.

Aythya marila (greater scaup)

Distribution: Widely scattered on both coastal and inland ponds but not particularly heavy anywhere. Breeding pairs recorded in 1970: 112. In 1971: 129.

Migration: Arrives toward end of May and beginning of June. First sightings in 1970 were June 2 and in 1971 May 27. Early migrant in the fall, rarely seen after first week of September.

Mareca americana (American widgeon)

Distribution: Very widely scattered light population. Most birds recorded were on the western portion of study area in the Ugnu, Colville River area.

Migration: Arrives toward end of May and first week of June. First birds seen May 28, 1971. Moves out fairly early in the fall. Few seen after end of August.

Somateria mollissima (common eider)

Distribution: One of the most common ducks in the area. Nests along the coast and on islands offshore.

Migration: Arrives in area around first week of June and stays late in the fall. Frequents the area around offshore islands until freeze-up.

Somateria spectabilis (king eider)

Distribution: Common along coast during spring and fall migrations. Not a heavy nester in study area.

Migration: Arrives toward end of May and beginning of June, stays quite late in fall, often seen migrating along open water leads.

Lampronetta fischeri (spectacled eider)

Distribution: Found in fair number in coastal plain area but are nowhere abundant in this locality.

Migration: Arrives late May and early June; leaves fairly late in fall.

Polysticta stelleri (Stellers eider)

Distribution: Widely scattered along coastal plain, but nowhere is there a heavy population.

Migration: Arrives late May and early June; leaves fairly late in the fall.

Melanitta deglandi (white-winged scoter)

Distribution: Widely scattered on inland lakes and ponds. Some found on offshore islands.

Migration: Arrives early June and stays late in the fall.

Malenitta perspicillata (surf scoter)

Distribution: Very light population and widely scattered.

Migration: Arrives early June. Fall migration unknown.

Histrionicus histrionicus (harlequin duck)

Distribution: Widely scattered along the Sagavanirktok River and its tributaries. One brood recorded on Ivishak River August 6, 1971.

Migration: Arrives in area soon after rivers open up in spring, generally toward end of May. Fall movements are not known, but we have recorded them on the upper reaches of the Sagavanirktok River in first week of September.

Clangula hyemalis (old-squaw)

Distribution: The most abundant duck on this part of the Alaskan Slope. Nests on coastal ponds and on islands lying offshore.

Migration: Arrives toward end of May and first week of June. One of the last birds to leave the area in the fall. Moves out to sea water when coastal ponds freeze over.

Falco peregrinus (peregrine falcon)

Distribution: Widely scattered throughout the study area. Several pairs recorded along the Colville River and south along the Sagavanirktok River. One nest located on Franklin Bluffs.

Migration: Arrives in early May and departs the area by mid-August.

Buteo lagopus (rough-legged hawk)

Distribution: Fairly common and widely scattered throughout the area. Nests recorded from the Colville and Sagavanirktok River areas.

Migration: Arrives in the area early in the spring (1970-May 7; 1971-May 9).

Falco rusticolus (gyrfalcon)

Distribution: Scarce in this area. One pair recorded on the Colville River in 1970 and one pair in same area in 1971.

Migration: Dates of arrival and departure unknown. Seen in area as late as August 29.

Aquila chrysaetos (golden eagle)

Distribution: Several seen in the upper reaches of the Sagavanirktok River. One nest recorded on high ridge near Galbraith Lake. Several immatures seen at different locations from Colville River to Mikkelsen Bay. Witnessed an immature kill a white fox near dock at Prudhoe Bay on August 14, 1971.

Migration: Migration patterns not known. Seen in the area from late May to end of August.

Lagopus lagopus alascensis (willow ptarmigan)

Distribution: Widely distributed and very plentiful at times. Some flocks, literally in the thousands, seen in the spring of 1970.

Migration: Residents of the area year-round.

Lagopus mutus nelsoni (rock ptarmigan)

Distribution: Not plentiful in the coastal area of the Slope but some flocks recorded from the foothills.

Migration: Year-round resident.

Grus canadensis (sandhill crane)

Distribution: Several pairs seen along the Colville River area. One nest found about 30 miles north of Umiat on east side of Colville River.

Migration: Arrives early in spring (May 10, 1970; May 14, 1971). Leaves fairly early in the fall.

Pluvialis dominica (American golden plover)

Distribution: Observed at widely scattered points throughout our study area. Nowhere very plentiful.

Migration: Arrives toward end of May. (1970-May 23; 1971-May 26). Leaves area by end of August.

Squatarola squatarola (black-bellied plover)

Distribution: Not plentiful, but recorded from widely scattered points over the study area.

Migration: Arrives in area toward end of May and leaves around end of August.

Charadrius semipalmatus (semipalmated plover)

Distribution: Very plentiful throughout the area. The most common of the plover family.

Migration: Arrives in area around May 20 and leaves toward end of August.

Arenaria interpres (ruddy turnstone)

Distribution: Widely scattered but not plentiful in area.

Migration: Arrives in area around May 20 and leaves toward end of August.

Erolia melanotos (pectoral sandpiper)

Distribution: Quite common throughout the area.

Migration: Arrives around May 25 and departs around end of August.

Erolia bairdii (Baird's sandpiper)

Distribution: Very few on coastal area but fairly plentiful on upper reaches of Sagavanirktok River.

Migration: Arrives around May 25 and leaves by end of August.

Erolia minutilla (least sandpiper)

Distribution: One seen in the Prudhoe Bay area in 1970 and one on May 26 in 1971.

Ereunetes pusillus (semipalmated sandpiper)

Distribution: Fairly common throughout the area.

Migration: Arrives early in spring around May 20. Leaves toward end of August.

Numenius phaeopus (whimbrel)

Distribution: Not seen in coastal area but recorded each year in area south of Franklin Bluffs toward foothills. Probably nests in this area.

Migration: Seen in early spring around May 20 and occasionally during summer.

Erolia alpina (dunlin)

Distribution: Widely scattered over study area but nowhere are they plentiful.

Migration: Arrives around May 25 and departs the area by end of August.

Micropalama himantopus (stilt sandpiper)

Distribution: Uncommon in the area. 1971: One recorded on May 26 near base camp at Prudhoe Bay and one on May 28 near Kuparuk River.

Migration: Arrives in area toward end of May. Migrant only.

Phalaropus fulicarius (red phalarope)

Distribution: One of the most plentiful of shore birds in the area. Every little pond seems to contain these birds in the spring.

Migration: Arrives in area around May 25 and is generally gone by the end of August.

Lobipes lobatus (northern phalarope)

Distribution: Plentiful in the Prudhoe Bay area but not as abundant as the red phalarope.

Migration: Arrives in company with the red phalarope around May 25. Leaves the area by end of August.

Limnodromus scolopaceus (long-billed dowitcher)

Distribution: Widely scattered but not plentiful in the area.

Migration: Arrives toward end of May. Recorded May 28, 1971. Leaves by end of August.

Stercorarius longicaudus (long-tailed jaeger)

Distribution: Widely scattered and quite plentiful at times, depending on lemming population. Nests on tundra knolls.

Migration: Arrives in area toward end of May. Leaves by first week of September.

Stercorarius pomarinus (pomarine jaeger)

Distribution: Widely scattered but not as plentiful as the long tailed. Nests on tundra.

Migration: Arrives toward end of May and leaves by first week of September.

Stercorarius parasiticus (parasitic jaeger)

Distribution: Fairly widely scattered throughout the area. Population depends on lemming abundance.

Migration: Arrives late May. Leaves by first week of September.

Larus hyperboreus barrovianus (glaucous gull)

Distribution: Widely scattered and quite plentiful in the area. Nests on islands and sandbars of braided streams.

Migration: Arrives early in spring—around May 10-12. Stays until freeze-up in fall.

Xema sabini (Sabines gull)

Distribution: Scattered over the area but not plentiful. Nests mostly on offshore islands.

Migration: Arrives in area toward end of May and leaves again toward end of August.

Larus canus (mew gull)

Distribution: Several recorded in the area during 1971. No nests found.

Migration: Arrived in area May 30. Not seen after end of August.

Sterna paradisaea (Arctic tern)

Distribution: Fairly common along coastal areas and on offshore islands.

Migration: Arrives in area toward end of May. Recorded May 22, 1970 and May 26, 1971. Leaves area by first week of September.

Nyctea scandiaca (snowy owl)

Distribution: Very plentiful during 1969. Scarce in 1970. Fair population in 1971. Fluctuates with the lemming population.

Migration: Year-round resident, if lemming available. Moves with the lemming. Often found far south in search of food.

Asio flammeus (short-eared owl)

Distribution: Scarce in 1970. Fairly plentiful during 1971 especially east of the Sagavanirktok River.

Migration: Seen in area from late May to end of August.

Corvus corax (common raven)

Distribution: Seen at widely scattered points throughout the area but not particularly abundant. Frequently seen on wolf and bear kills.

Migration: Winters locally.

Lanius excubitor (northern shrike)

Distribution: Only one recorded on Ivishak River on June 5, 1970.

Migration: Straggler in area. Only one recorded as indicated above.

Acanthis hornemanni (redpoll)

Distribution: Recorded on several different occasions in the Colville River area and on the upper reaches of the Sagavanirktok River. Not recorded from the coastal plain.

Migration: Definite movements not known but apparently arrives fairly early in spring. (We recorded several in the upper reaches of the Sagavanirktok during last week of May, 1971.)

Passerculus sandwichensis anthinus (Savannah sparrow)

Distribution: Recorded on different occasions at different points throughout the range, but nowhere did we find them abundant.

Migration: Arrives fairly early in the spring. Recorded May 15, 1971. Leaves around first week of September.

Calcarius lapponicus (Lapland longspur)

Distribution: Very common throughout the region. Can be found practically everywhere on the tundra.

Migration: Early arriver. Recorded from May 12. Leaves area late August and early September depending on weather conditions.

Plectrophenax nivalis (snow bunting)

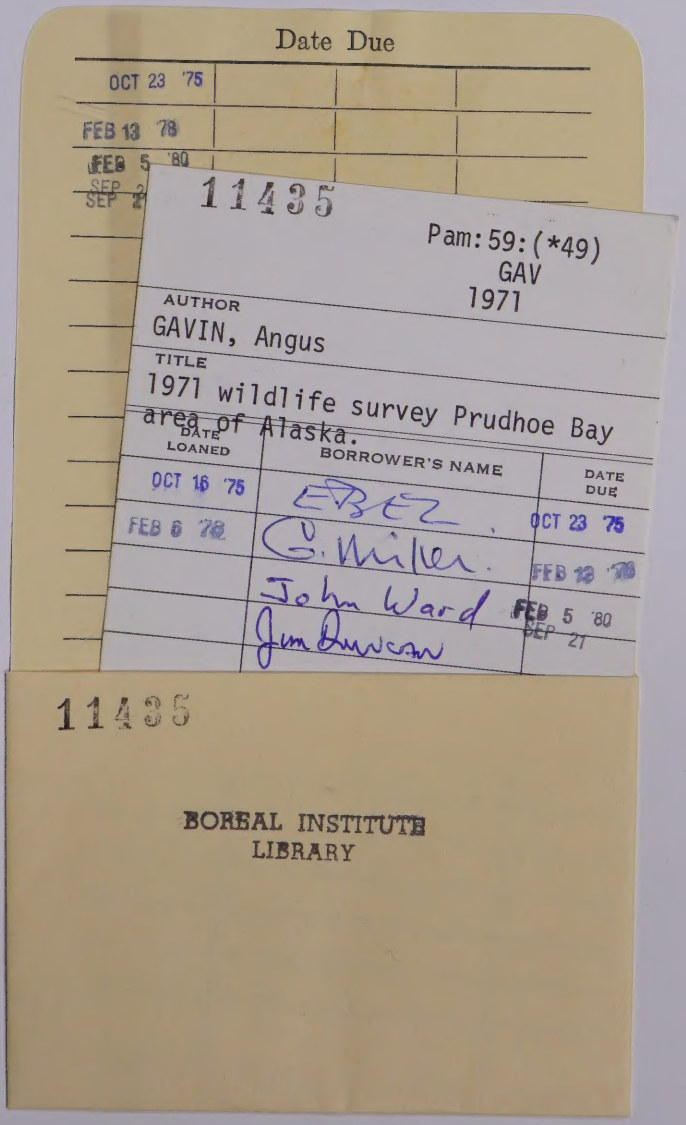
Distribution: Common throughout the region. Can be seen practically anytime on the tundra.

Migration: Arrives early in the spring around first week of May. Lingers in the fall, often until well after freeze-up.

Riparia riparia (bank swallow)

Distribution: One seen on May 30, 1971 near the Kuparuk River. One recorded on the Canning River in 1970.

Migration: Migration not known. Presumed stragglers in area.



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